

Abstract

NETWORK ADDRESS TRANSLATION IN A GATEWAY

5 A gateway using multiple NAT tables to translate network addresses (e.g., Internet Protocol
Addresses). The gateway may comprise a service selection gateway connecting remote systems to
service domains. The gateway translates local addresses of remote systems to external addresses, and
vice versa. The external addresses (bound to the respective local addresses) may be provided by the
service domains. The NAT information is partitioned according to service domains such that the
external addresses related to the same service domain are stored in the same NAT table. If there is
no overlap of external addresses provided by two service domains, the two service domains may share
the same NAT table. Due to the partitioning of the NAT information, each table may be limited to be
of small size, and the accesses to individual tables may be fast. As a result, a gateway may be able to
process and forward packets quickly.

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